

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

In the Matter of	)	
	)	
Request by Metrom Rail, LLC	)	WT Docket No. 18-284
for Waiver of Sections 15.519(a) and	)	
15.519(c) of the Commission's Rules	)	

**FURTHER REPLY COMMENTS OF METROM RAIL, LLC**

Metrom Rail, LLC (“Metrom”) submits these further reply comments in the above-captioned proceeding<sup>1</sup> specifically to respond to the comments filed by The National Public Safety Telecommunications Council (“NPSTC”)<sup>2</sup> and the joint comments submitted by NCTA – The Internet and Television Association (“NCTA”) and American Cable Association (“ACA”).<sup>3</sup> Because NPSTC and NCTA/ACA filed their comments as reply comments after the comment deadline, Metrom was unable to address the issues raised by these parties in its own replies.

Both pleadings acknowledge the benefits of positive train control systems and support Metrom’s goals to promote railway safety for passengers and personnel.<sup>4</sup> NPSTC, however, expresses concerns about potential interference to public safety operations in the 4940-4990

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<sup>1</sup> Office of Engineering and Technology Seeks Comment on Metrom Rail LLC Request for a Waiver of Part 15 Ultrawideband Rules for a Positive Train Control System, DA 18-973, September 20, 2018 (“*Public Notice*”).

<sup>2</sup> The National Public Safety Telecommunications Council Reply Comments, ET Docket No. 18-284 (filed Nov. 6, 2018) (“NPSTC Reply Comments”).

<sup>3</sup> NCTA – The Internet and Television Association and American Cable Association Reply Comments, ET Docket No. 18-284 (filed Nov. 6, 2018) (“NCTA/ACA Reply Comments”).

<sup>4</sup> NPSTC Reply Comments at 1; NCTA/ACA Reply Comments at 1.

MHz band.<sup>5</sup> NPSTC states that New York City (“NYC”) and the Cities of Los Angeles (“LA”) and Long Beach in California have extensive 4.9 GHz operations.<sup>6</sup> To address these concerns, NPSTC asks that the following conditions be applied should the Commission decide to grant Metrom its requested waiver: (1) Metrom must maintain a record of the locations of its deployed UWB devices; (2) deployments in Boston, MA; New York City, NY; and Los Angeles, CA include testing of potential interference; and (3) Metrom maintain a stop buzzer contact that can be called on to immediately cease operations should interference be received.<sup>7</sup>

For the reasons stated previously, Metrom believes that it is extremely unlikely that public safety operations in the 4940-4990 MHz band would receive interference from the UWB devices. Nonetheless, Metrom would agree to maintain a record of deployed UWB devices to help assess whether any deployed units could be the source of any interference that public safety operations may experience in the future. Further, Metrom has already agreed to provide a contact point for discussing issues which might arise in the future, and that such communications would be compliant with the Part 15 UWB coordination requirement described in CFR Title 47 Part 15.525.<sup>8</sup> Finally, Metrom has contacted NPSTC to address its concerns directly as well as to determine locations that warrant particular scrutiny for potential interference to 4.9 GHz public safety operations. Taken together, Metrom believes that these steps will address the three

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<sup>5</sup> NPSTC Reply Comments at 1.

<sup>6</sup> NPSTC Reply Comments at 4-6.

<sup>7</sup> NPSTC Reply Comments at 7.

<sup>8</sup> Metrom Reply Comments at 10 (listing a contact telephone number (855.963.8726) and email address ([service@metrom-rail.com](mailto:service@metrom-rail.com))).

conditions suggested by NPSTC. Metrom is committed to working cooperatively to ensure that public safety systems operating in the 4.9 GHz band are protected from Metrom's operations.

In the other pleading, NCTA and ACA have raised unsubstantiated concerns about potential interference to FSS earth stations in the 3700-4200 MHz band and requested that the Commission proceed to consider Metrom's request for waiver *only after* (1) Metrom submits a detailed technical analysis demonstrating that its proposed operations will not cause harmful interference to Fixed-Satellite Service ("FSS") C-Band downlinks; and (2) the Commission resolves its broader 3.7-4.2 GHz rule making proceeding.<sup>9</sup>

As an initial matter, the Metrom Rail waiver request would have no effect on the ongoing C-Band rulemaking proceeding. Use of the 3.272-5.014 GHz band for positive train control under Part 15 operational limits would not impinge upon existing C-Band operations nor would it have any effect on future terrestrial mobile operations. Part 15 unlicensed operations have no "vested or recognizable right to continued use of any given frequency by virtue of prior registration or certification of equipment"<sup>10</sup> and are "subject to the conditions that no harmful interference is caused and that interference must be accepted that may be caused by the operation of an authorized radio station."<sup>11</sup> Finally, an "operator of a radio frequency device shall be required to cease operating the device upon notification by a Commission representative that the device is causing harmful interference."<sup>12</sup> In short, Metrom's UWB operations under Part 15

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<sup>9</sup> NCTA/ACA Reply Comments at 1-2 (emphasis added).

<sup>10</sup> See 47 C.F.R. §15.5(a).

<sup>11</sup> See 47 C.F.R. §15.5(b).

<sup>12</sup> See 47 C.F.R. §15.5(c).

would have no cognizable right to interference protection or be permitted to cause any interference to current or future licensed authorized users of the C-Band. There is therefore no reason to await action on the rulemaking proceeding as Metrom's operations would have no bearing on the outcome of the Commission's deliberations.

Additionally, Metrom provided an in-depth response to Aviation Spectrum Resources, Inc. ("ASRI") on the transmitted power and signal characteristics of the UWB signal (as ASRI properly provided its interference concerns during the formal comment round of this proceeding), which directly address NCTA and ACA's interference concerns.<sup>13</sup> In summary, the UWB transmitted average power level will be similar to that allowed for Class B unintentional radiators and the RF energy will be directed along the railway with the use of a directional antenna, resulting in off-axis power levels which will be below the currently allowed limits for UWB handheld devices.<sup>14</sup> Moreover, UWB transmissions are not continuous; instead, the radios transmit extremely short duration packets at a maximum rate of a several Hertz.<sup>15</sup> The UWB transmission time between the UWB transceiver on a stopped train and another fixed device on the wayside will normally be less than 15 seconds total per hour. If the train is moving, the transmissions from both devices will end when the train leaves the area. These transmission times are only relevant for active trains (trains that are in motion that require positive train control). The fixed infrastructure units located along the railroad right-of-way will typically transmit only in response to packets sent by a train,<sup>16</sup> so if a mobile device is not in the vicinity,

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<sup>13</sup> See Metrom Reply Comments.

<sup>14</sup> Metrom Reply Comments at 5-6.

<sup>15</sup> Metrom Reply Comments at 6.

<sup>16</sup> Metrom Reply Comments at 6.

the fixed device will not be transmitting at all. Metrom therefore believes that there is no need for a detailed technical analysis on potential harmful interference because the interference posed by the proposed system can be readily calculated and the energy in question is minimal.

Grant of Metrom's request will serve the public interest by improving public safety through an accurate and cost-effective system that will protect metropolitan rail riders and workers without any adverse effects on licensed spectrum users. Metrom has provided additional details and acceded to conditions on the waiver grant to address the interference concerns raised in the reply round by NPSTC and NCTA/ACA. Metrom urges the Commission to expeditiously review and approve this request.

Respectfully Submitted,

/s/Richard Carlson Sr.

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December 3, 2018